

REMARKS

This Amendment is filed in response to the Office Action of June 13, 2008 in which claims 1-20 were rejected.

AMENDMENT:

The Applicant submits a new set of amended claims 1-20 as set forth above. Amended independent claims 1 reads as follows:

1. A semiconductor component, comprising a semiconductor element encased by a cover element having an integrated electroconductive element comprising at least one outlet, wherein the at least one outlet is configured to connect the electroconductive element to ground in order to shield the semiconductor element against electrostatic pulses.

The semiconductor component comprises semiconductor element (102, 202, 302) encased by a cover element (104, 204, 304) as shown in figs 1-3 and in the description e.g. page 3, lines 27-29 (“the cover element of the semiconductor component”). The cover element encases the semiconductor elements as shown in figs 1-3 and in the description e.g. page 5, lines 20-21. The cover element has an integrated electroconductive element (105, 205, 305) as shown in figs 1-3 and in the description on page 6, lines 9-10, page 7, lines 1-3, and page 8, lines 18-19, as well as on page 3, lines 26-29. Independent claims 8, 15 and 16 are amended in a similar way.

Dependent claims 5, 6, 9, 13, 17 and 18 are amended to be compliant with new independent claims. The indefiniteness problems with claims 5-7, 12-14 and 20 are overcome by the amendments.

ARGUMENTATION

Thomason discloses a system component (16) being mounted in the enclosure (12) of the computer where the enclosure (12) includes a plurality of entry

points (14) or discontinuities that expose the system component for ESD susceptibility (col 2, lines 54-65). It would be evident from *Thomason* (col 2, line 66, – col 3, line 3) that the ESD susceptible system component (12) corresponds to the semiconductor component of the present application not the semiconductor element (102, 202, 302) of the present application. *Thomason* lists as examples of the system components e.g. semiconductor devices, switches and controllers which all typically include a plurality of diodes and transistors as semiconductor elements in the sense of the present application (col 3, lines 1-3). Therefore, *Thomason* does not disclose the semiconductor element (102, 202, 302) in the meaning of amended claims 1, 8, 15 and 16.

Further, the ESD receiving portion (18b) of *Thomason* is positioned in spaced apart relationship with respect to the system component (16) as disclosed in column 3, lines 15-19, and as shown in figure 2. Thus the ESD receiving portion (electroconductive element) of *Thomason* is not integrated in any way to the system component (semiconductor component) as claimed in claims 1, 8, 15 and 16 of the present application.

Therefore, *Thomason* does not disclose a semiconductor component comprising a cover element that encases a semiconductor element of the semiconductor component. *Thomason* discloses a semiconductor component (16) being mounted in the enclosure (12) of the computer (10) (col 2, lines 47-48 and 66-67). *Thomason* does not disclose a semiconductor component comprising a cover element with an integrated electroconductive element. *Thomason* discloses a semiconductor component (16) and an electroconductive element (18, 18a, 18b) being positioned in spaced apart relation (col 3, lines 15-19).

In accordance with above, the subject-matters claimed in claims 1, 8, 15 and 16 are new and nonobvious in view of *Thomason*. The dependent claims rejected on this ground are patentable for at least the same reasons.

Whitney teaches an optocoupler (semiconductor component) comprising a LED (semiconductor element) and photodiode (another semiconductor element), i.e. TWO semiconductor elements. The shield (electroconductive element) is placed between the LED and photodiode to avoid false indications due to large signal inputs to the optocoupler (paragraph 10). However, the shield (30) of *Whitney* does not

shield the LED (semiconductor element) against electrostatic pulses at all, contrary to the subject-matter claimed in claims 1, 8, 15 and 16 of the present application. The functional nature of the claimed combination of a semiconductor element encased by a cover element as claimed, e.g., in the last phrase of claim 1, i.e., “to shield against electrostatic pulses” goes to the nature of the cover element and should not to be dismissed especially in view of the fact that neither *Whitney* nor any of the other applied prior art show a cover that encases a semiconductor element to shield against electrostatic pulses. Further, *Whitney* teaches that the shield (electroconductive element) is deposited directly on the photodiode (another semiconductor element) in paragraph 12 and that the shield is connected to ground potential in paragraph 16. However, *Whitney* does not teach a cover element of the semiconductor component that encases a semiconductor element (LED or photodiode) and that a cover element has an integrated “shield” (electroconductive element in the sense of *Whitney*). *Whitney* teaches that two semiconductor elements (LED and photodiode) are inside the cover of the optocoupler (semiconductor component) (figs 1-2). Therefore the cover of *Whitney* differs from the cover element claimed in claims 1, 8, 15 and 16. Nor does *Whitney* teach an outlet of the shield (electroconductive element) in the sense claimed in claims 1, 8, 15 and 16.

The advantage of the subject-matter of the invention is to provide shield against electrostatic pulses coming from other directions than from the direction of the circuit board. The “shield” disclosed in *Whitney* does not offer this advantage, because the semiconductor element (LED 10) being positioned above the other semiconductor element (photodiode 20) is unshielded and susceptible to electrostatic pulses coming from all other directions than from the direction of the circuit board because it is not encased by a cover element having an integrated electroconductive element comprising at least one outlet. For this reason the person of ordinary skill would not look at *Whitney* because it is solving a different problem with a solution different from the solution disclosed in claims 1, 8, 15 and 16.

In accordance with the above, the subject-matters claimed in claims 1, 8, 15 and 16 are new and inventive in view of *Whitney*. The dependent claims rejected on this ground are patentable for at least the same reasons.

The person of ordinary skill in possession of the teachings of *Thomason* would not consult *Awujoola* in order to arrive at solution claimed in claims 6 and 13 because *Awujoola* does not teach that the package frame 170 (cover element) has an integrated package shell 110 (electroconductive element). *Awujoola* merely teaches that the frame laterally surrounds the shell and covers the (folded) brim of the shell as disclosed in paragraph 39. Further, the frame is said to be optional (paragraph 33) and therefore not necessarily a part of the circuit package (semiconductor component). The shell of *Awujoola* simply forms a metal box around the semiconductor element that is referred to as being part of the state of the art in the present application starting on page 2, line 27, of the description. In accordance of the above the person of ordinary skill would not be able to combine teachings of *Awujoola* with teachings of *Thomason* to arrive at solution claimed in claims 6 and 13, and therefore the subject-matters claimed in claims 6 and 14 are not obvious.

Likewise, the person of ordinary skill in the art in possession of the teachings of *Thomason* or *Whitney* would not consult *Sasaki* in order to arrive at solution claimed in claims 7 and 14. *Sasaki* is directed to thin-film magnetic heads (paragraph 1) and is targeted to reduce magnetic path length of the coil (paragraph 20) and therefore the person of ordinary skill would not consider *Sasaki* to improve shielding of a semiconductor element against electrostatic pulses. The skilled person would not combine the teachings of *Sasaki* and *Thomason* or *Whitney* to arrive at the solution claimed in claims 7 and 14, and therefore the subject-matters claimed in claims 7 and 14 are not obvious.

The objections and rejections of the Office Action of June 13, 2008, having been obviated by amendment or shown to be inapplicable, withdrawal thereof is requested and passage of claims 1-20 to issue is earnestly solicited.

Respectfully submitted,



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